

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14545

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C10G67/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C10G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 242 578 A (KOLSTAD JEFFREY J ET AL) 7 September 1993 (1993-09-07) column 7, paragraph 1 -column 8, paragraph 1; claim 1; figures 4,8 column 14, last paragraph column 15, paragraph 3 ---	1,4-19, 22,23
A	US 3 723 294 A (GLEIM W ET AL) 27 March 1973 (1973-03-27) column 6, paragraph 1 - paragraph 2; claim 1 ---	1
A	US 4 640 762 A (SOUHRADA FRANK ET AL) 3 February 1987 (1987-02-03) column 3, paragraph 2 - paragraph 4; figure 1 ---	2 -/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

- "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the International search

26 April 2004

Date of mailing of the International search report

04/05/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Gilliquet, J-N

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/14545

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/60952 A (EXXONMOBIL RES & ENG CO) 23 August 2001 (2001-08-23) claim 1; figure 1 -----	1
A	US 4 400 264 A (KWANT PIETER B ET AL) 23 August 1983 (1983-08-23) claims 1,2; figures 1-3 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/14545

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 5242578	A 07-09-1993	CA US US US US US US EP JP JP WO US US CA MX	2064338 A1 5013427 A 5124026 A 5124027 A 5124025 A 5312543 A 0434799 A1 2804369 B2 4501879 T 9101360 A1 5228978 A 5258117 A 2035875 A1 170689 B	24-09-1993 07-05-1991 23-06-1992 23-06-1992 23-06-1992 17-05-1994 03-07-1991 24-09-1998 02-04-1992 07-02-1991 20-07-1993 02-11-1993 19-01-1991 07-09-1993
US 3723294	A 27-03-1973	AR AU AU CA DD DE DE DK EG ES FI FR GB HU JP JP JP NL NO PL SE SU YU ZA	211222 A1 474457 B2 4786772 A 982967 A1 103923 A5 2250822 A1 2265477 B1 143810 B 10771 A 407701 A1 55210 B 2156777 A1 1391720 A 168328 B 870113 C 48075606 A 51033563 B 7214077 A ,B, 136155 B 90715 B1 374387 B 446127 A3 258972 A ,B 7207434 A	15-11-1977 22-07-1976 26-04-1974 03-02-1976 12-02-1974 30-05-1973 07-02-1980 12-10-1981 30-06-1976 16-10-1975 28-02-1979 01-06-1973 23-04-1975 28-03-1976 13-07-1977 12-10-1973 20-09-1976 24-04-1973 18-04-1977 31-01-1977 03-03-1975 05-10-1974 30-04-1980 29-08-1973
US 4640762	A 03-02-1987	CA DE EP JP NL	1222471 A1 3667179 D1 0216448 A1 62030189 A 8601695 A	02-06-1987 04-01-1990 01-04-1987 09-02-1987 16-01-1987
WO 0160952	A 23-08-2001	AU CA CN EP JP WO US	3823501 A 2398252 A1 1400997 T 1268713 A1 2003523451 T 0160952 A1 2002005374 A1	27-08-2001 23-08-2001 05-03-2003 02-01-2003 05-08-2003 23-08-2001 17-01-2002
US 4400264	A 23-08-1983	NL AU AU CA	8201119 A 555121 B2 1250583 A 1195638 A1	17-10-1983 11-09-1986 22-09-1983 22-10-1985

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/14545

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 4400264	A	DE	3361368 D1	16-01-1986
		EP	0090437 A1	05-10-1983
		ES	8401515 A1	01-03-1984
		JP	58201889 A	24-11-1983
		MX	162350 A	26-04-1991
		SU	1424740 A3	15-09-1988
		ZA	8301834 A	30-11-1983